

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous claim listings and versions.

1-27. (Cancelled)

28. (Currently Amended) A process for treating microelectronic or optoelectronic substrates that have a working layer with a free surface thereof, which process comprises annealing the substrate under a reductive atmosphere that includes hydrogen for less than 3 minutes at a temperature between 1100 and 1300°C to assist in smoothing of the free surface, followed by chemical mechanical polishing of the free surface to provide it with a final rms roughness of between 0.8 and 1.5 angstroms measured during scanning of a 1 x 1 μ m area so that it is ready for further processing.

29. (New) The process of claim 28, wherein the reductive atmosphere comprises hydrogen or a mixture of hydrogen and argon.

30. (New) The process of claim 28, wherein the annealing is conducted for less than 60 seconds at a temperature between 1200 and 1230°C.

31. (New) The process of claim 28, which further comprises oxidizing the working layer prior to polishing to provide at least a portion of the free surface as an oxide.

32. (New) The process of claim 31, which further comprises removing a portion of the oxide prior to annealing.

33. (New) The process of claim 28, wherein the further processing includes one or more heat treatments of the substrates.

34. (New) The process of claim 28, which further comprises oxidizing the working layer after polishing to provide at least a portion of the free surface as an oxide.

35. (New) The process of claim 34, wherein the oxidizing is carried out to form a protective oxide on the working layer and which further comprises subjecting the substrates to further processing including at least one further heat treatment while the working layer is protected by the oxide.

36. (New) The process of claim 28, which further comprises annealing the substrates after the polishing step in order to improve qualities of the working layer.

37. (New) The process of claim 28, wherein the working layer is provided by implanting atoms into a wafer to form a weakened atom implantation zone that defines the working layer, bonding the wafer to the substrate and then detaching the working layer from the wafer along the weakened zone to transfer it to the substrate.

38. (New) The process of claim 37, wherein the working layer is made of a semiconductor material.

39. (New) The process of claim 37, wherein the working layer is made of silicon.

40. (New) The process of claim 28, wherein chemical mechanical polishing removes about 200Å to about 400Å of the substrate.